

PPL13 PROJECT NOMINEE FACT SHEET  
MARCH 12, 2003

**Goose Point/Point Platte Shoreline Protection and Marsh Creation (1 - 2)**

**Coast 2050 Strategies (Region 1)**

Coastwide: Dedicated Dredging to Create, Restore, or Protect Wetlands; Maintenance of Gulf, Bay and Lake Shoreline; Vegetative Planting; and Terracing.

Regional: (#9) Dedicated Delivery of Sediment for Marsh Building; (#10) Maintain Shoreline Integrity of Lake Pontchartrain to Protect Regional Ecosystem Values.

Mapping Unit: (#27) Maintain Shoreline Integrity; (#28) Vegetative Plantings; (#29) Restore Hydrology; (#30) Terracing.

**Project Location**

Region 1, St. Tammany Parish, North Shore of Lake Pontchartrain between Fountainbleu State Park and Hwy 11, within the Big Branch Marsh National Wildlife Refuge (Figure 1).

**Problem**

Interior ponding and, to a lesser extent, shoreline erosion are the major causes of wetland loss in the project area. Interior marsh loss rates for the Goose Point and Point Platte areas from 1956 to 1978 are estimated to be 31.30 acres/yr and 10.42 acres/year, respectively (McCarty, 2001). The more current loss rates for those same areas from 1978 to 1995 are estimated to be 6.42 acres/yr and 5.54 acres/yr, respectively (McCarty, 2001). Shoreline erosion rates for the period 1978 to 1995 are estimated at -6 ft/yr at Goose Point and less than -2 ft/year east of Point Platte (McCarty, 2001).

Although the shoreline erosion rates are relatively low in the area east of Point Platte, this section of shoreline is a high priority because of the narrow strip of land between the lake and interior ponded areas E-G (Figure 1). The shoreline is already breached in several areas and marsh loss in the interior ponds would be expected to increase dramatically if this section of shoreline failed.

Coast 2050 loss rates for the North Shore Marshes Mapping Unit are:

1974 - 1983 rate = 0.45%/year

1983 - 1990 rate = 0.22%/year

1974 - 1990 rate = 0.35%/yr

**Goals**

The primary goals are to re-create marsh habitat in the open water areas in the vicinity of Goose Point and Point Platte and to maintain the lake-rim function along this section of the north shore of Lake Pontchartrain, especially east of Point Platte where very little land is left between the lake and the open ponded areas.

**Proposed Solution**

Sediment would be hydraulically dredged from Lake Pontchartrain and placed in areas A-G (Figure 1) to create approximately 390 acres emergent marsh. The material would be placed in

cells within each area to create a mosaic of emergent marsh and open water with a ratio of approximately 1:1. In all the ponds, marsh would be created to widen the shoreline so that the ponds would not be breached during the course of normal shoreline retreat. Sediment would either be pumped within containment dikes or placed in “islands” which would naturally degrade. The created areas would be planted with plugs of smooth cordgrass on approximately 5-ft centers. Initial elevations would depend on conditions of the dredged material, but would be pumped to approximately 1.5 to 1.75 ft above marsh level to achieve final target elevation of +0.5 ft above marsh elevation. The entire lake shore within the project area (approximately 43,000 linear feet) would be protected using vegetative plantings (*Spartina alterniflora*).

### **Preliminary Project Benefits**

Approximately 390 acres of marsh will be created. Shoreline protection features (vegetative planting) will prevent further breaching of the lake rim east of Pointe Platte. The loss rates for the interior ponded areas are estimated to be reduced by approximately 75% and the shoreline erosion rate would be reduced by approximately 50%.

### **Compatibility with Coast 2050 Criteria**

#### Wetland Elevation/Sustainability

All project features are designed to protect and enhance self-sustaining wetlands through marsh creation and shoreline protection. The planting of vegetation will ensure sustainability by contributing to vertical accretion through production of above and below ground biomass as well as trapping resuspended sediments during high wind/water events. Approximately 390 acres of emergent marsh will be created. The net acres of emergent wetlands at the end of the project life (20 years) is expected to be between 250 and 500 acres.

#### Ecosystem Influence Area

By maintaining the lake rim function in the project area, the project will protect and influence the marshes between the lake and the old prairie terrace in that section of shoreline protected by the interior marsh creation. The proposed project area is 3,700 acres.

#### Structural Framework

The project features are designed to sustain the northern lake rim habitat of Lake Pontchartrain by providing a platform on which the shoreline can retreat. This structural function is expected to last the 20 year lifetime of the project.

#### Infrastructure

The project is expected to have a net positive impact on non-critical infrastructure (LA Hwy 434, 2 pipeline canals, and Bayou LaCombe).

#### Organism and Material Linkages

The project will allow a level of organism and material exchange consistent with sustainability of the ecosystem. Containment dikes will be degraded following consolidation of dredged material. The planned mosaic of marsh and open water will increase amount of marsh-edge habitat, an important fisheries habitat.

#### Coast 2050 Habitat Objectives

The habitat objective shown in figure 7-1 of the Coast 2050 report is intermediate marsh. However, Appendix C describes the habitat objectives as follows: “Habitat objectives for this mapping unit are intermediate and brackish marsh with associated aquatic habitats”. The project area currently consists of largely brackish marsh with some intermediate marsh. The project will have no effect on the habitat objectives because salinities will not change with or without the project.

#### Project Synergy

Other restoration projects underway near the project area include vegetative plantings being conducted by Big Branch Marsh NWR and Christmas tree fences installed west of Bayou LaCombe. The proposed project provides synergy with those other restoration projects.

#### **Preliminary Construction Costs**

Preliminary construction costs are estimated at \$11.5 million

#### **Preparer of Fact Sheet**

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#### **Reference**

McCarty, Philip V. 2001. The Genesis of the Big Branch Coastal Wetlands: The Geologic and Geomorphic Evolution of the Bayou LaCombe Area, Late Pleistocene to the Present. Masters Thesis, Department of Geology, University of New Orleans.